Introduction to LSPECS

Project Brief: Mock Monitoring Program & Monitoring Round

This Project Brief accompanies the tutorials presented as part of the LSPECS User Manual, which includes a series of exercises designed to provide an introduction to key functionality of LSPECS.

This Project Brief has been designed to simulate the design, implementation and review of a typical environmental sampling plan using the LSPECS system to build the plan, manage communications and record data.

The exercises comprise the different steps in the sampling event, including:

1. **Design:** Pre-field work preparation
2. **Implementation:** Attending a site to perform field sampling and record field data
3. **Review:** Submitting samples to a lab and reviewing results

It is assumed participants completing this exercise possess a good understanding of the fundamental principles of environmental sampling, in particular the submission of samples to laboratories for analysis.

In order to allow you to meaningfully explore LSPECS, EScIS has developed a unique user profile as well as a unique site and project.

Overview

The tutorial exercises comprise the following steps:

- Create a Project and a Site
- Create a Laboratory and lab quote
- Create a new monitoring program
- Create a corresponding monitoring round template
- Create & self-assign a new monitoring round from the monitoring program
- View the round overview and update the round status
- Upload field data
- Create a Sample Delivery Group & send to a laboratory
- Finalise field work status
- View lab submissions
- Receive and open a lab report, manipulate layout and add comments
- Review laboratory QA report

The Scenario

The mock project has been prepared to simulate a basic groundwater and surface water sampling program being conducted at a metals plating facility. The facility consists of a factory building and a waste water treatment pond. The local regulator has issued an operational licence with the condition that groundwater quality is monitored at the site.

Two groundwater wells have been installed at the site to monitor groundwater conditions:

1. Test-GW01 – installed adjacent the factory
2. Test-GW02 – installed adjacent the treatment pond
3. Test-SW01 – surface water sample point from the treatment pond

Both of these wells require sampling, with an intra-laboratory duplicate sample to be collected at Test-GW01. In addition, a surface water sample (Test-SW01) is required to be collected from the treatment pond. A rinsate sample is also required.

Requirements

To complete the exercises, you will need:

- A PC with internet access and a standard web browser installed (e.g. Internet Explorer, Chrome, Firefox)
- Two monitors (one to view LSPECs and another to view each tutorial)
- A printed hard copy of this Project Brief (or a third monitor)
- Access to email

Assessment Criteria

As this exercise focuses on water sampling and chemical analysis, the NEPM 2013 GILs are considered a suitable guideline to achieve the exercise objectives.

These guidelines have previously been imported into LSPECS and can be nominated when preparing the groundwater sampling plan.

Getting started in LSPECS

To commence the exercise:

- Open your browser and confirm an internet connection
- Go to the LSPECS login page and login to LSPECS

Once logged in, the LSPECS Home Screen will be visible.

Take some time to look over the Home Screen and familiarise yourself with the layout before proceeding with the exercise. If you are ready to proceed, let's begin!

Create a Project & Site

Below are the details to be entered into LSPECS when creating a new Project & Site.

Please note, this process only requires completion once and requires sufficient permissions to create a new project. For subsequent users completing this exercise, the same project can be used again (as can the site described below).

The details below do not include information for all the fields available in LSPECS, only selected fields. Where a field appears in LSPECS but is not presented below, leave the LSPECS field blank.

Project Details	
Project ID & Name	LSPECSTest #01 (if this exists, create the next available , in sequence, e.g. LSPECSTest #02)
Start date	Today (in dd/mm/yyyy format)
End date	1 year from today
Active	Yes
Commissioning company	Acme Ltd
Users	Add all users nominated to complete this exercise
Click *Save*	
Site Details	
Site ID & Name	LSPECSTest Site 01 (if this exists, create the next, in order)
All other details	Add as required (be creative!)
Site groups	Create & assign a user group if you wish
Monitoring Zones	1 – Factory 2 – Treatment pond
Location Code Generation	
Site Prefix	Test-
Integer Length	2
Environmental Standards	NEPM2013 GILs

Create A Laboratory & Lab Quote

The following details should be entered when setting up a laboratory. Effectively this will set up an internal 'generic' analytical list that can be used (and expanded) at later dates.

Lab Code	Generic-Lab
Laboratory	Internal
Request email	internal.lab@LSPECSTest.com.au
Contact	Joe Internal
Quote number	Internal
Quote name	Internal
Quote group	Demonstration
Suite 1	TPH/BTEX/8 Metals
Suite 2	pH

Create Locations

Now a project, site and monitoring zones have been created, locations can also be created.

Only the following fields are essential, however if the user chooses values can be entered in other fields.

Locations	
Project and Site IDs	As per entered, following page 3 instructions
Locations types	3 in total, 2 GW & 1 SW
Monitoring zones	1 GW for the factory (zone 1) 1 GW and 1 SW locations for the treatment pond (zone 1)
Description	Add a suitable description of the location

Create a Monitoring Program

Below are the details to be entered into LSPECS when creating the Monitoring Program.

The details below do not include information for all the fields available in LSPECS, only selected fields. Where a field appears in LSPECS but is not presented below, leave the LSPECS field blank.

(Monitoring Program) Name	Trial-*Date-XY* *Date* = today dd mmm yyyy *XY* = your initials
Regulatory Authority	EPA
Start date	Today (in dd/mm/yyyy format)
End date	1 week from today
Frequency	Daily
Project Manager	*Yourself – i.e. same as your LSPECS login user name*
Compliance contacts	Leave *blank* (no contact)
Site	*(refer Site created as per page 4)*
Required locations	*(Locations created, as per page 2)*
Environmental Standards	NEPM2013 GILs (refer earlier info)
Base Template Name	Trial-Date-XY (will auto populate)
Days before scheduled date	0 (days)
(click SAVE)	
Create template from:	Blank

The final step in creating a Monitoring Program is designing the Monitoring Round Base Template. This (as the name suggests) forms the template for each individual round created in the Program.

Monitoring Round Base Template

Project	LSPECSTest #01 (or whichever was created as per page 3)
Assigned to	*Yourself – i.e. your LSPECS login user name*
Comments	*Add any comments you wish*
Primary Lab	Internal
Primary Lab contact	Joe Internal
Primary Lab quote #	Internal
Secondary Lab	*Leave blank*
Secondary Lab contact	*Leave blank*
Deliver results to	Yourself (your LSPECS user)
Delivery instructions	*Leave blank*
Special instructions	*Leave blank*
Planned Location Visits	Test-GW01, Test-GW02, Test-SW01
Planned Samples	
Primary (Normal):	Test-GW01, Test-GW02, Test-GW01
Intra-laboratory duplicates (Field_D)	Test-GW01 (Field ID: QA1)
Lab QA	Rinsate (Field ID: Rinsate)
Sample Containers (per location)	1 Amber Glass 500 mL 2 Amber vials 40 mL HCL preservative 1 Clear Plastic 150 mL HCL preservative, Filtered
Laboratory analysis	TPH/BTEX/8 metals & pH
Field Parameters	pH, EC (edit the Groundwater Profile)
Field Instructions	Calibrate instruments and decontaminate appropriately

Create a Monitoring Round

Project	
Monitoring Round	"Trial-Date-XY"
Start Date	Today
End Date	Today
Select: *Create from Monitoring Program*	
Expand program "Trial-Date-XY"	
Select *create round* corresponding with today's date	

Enter Field Data

Field Result Profile	Groundwater
Site ID	*(As created – see page 3)*

For each location to be visited, enter some typical Field Chemistry values and water levels.

Prepare a Lab Submission

Sample Delivery Group SDG / COC number	LSPECSTest #01_01

Enter some mock details for the *Hand Over, Special Instruction (results delivered by)* and *Lab Request Sent* sections of the Lab Submission.

You will have been provided two laboratory report (csv) files – one for chemistry and the other for samples.

In addition, if you have completed the relevant tutorial, you would also have created a xml 'header' file from the ESdat web site.

These three files (2 x csv & 1 xml) can be appended to a blank email and sent to your relevant LSPECS email address, so they appear under your project in LSPECS. This simulates what would occur in a real-life scenario (except the lab would send the email).

Your administrator will provide a relevant email address to send the email to.

This email will need to be sent and the relevant lab report appear in LSPECS prior to completing the tutorial relating to laboratory data review.

Repeating the Exercise

After the exercise is complete once, the following data is recorded permanently in LSPECS (from the perspective of the LSPECS user).

- Site
- Project
- Laboratory and Quote
- Monitoring Program & Rounds
- Locations

Removal of this data from the system would require an advanced ESdat user to enter from the 'back end' to delete this information.

If this is not possible, the following components exercise can be repeated by new users (who would require suitable user permissions):

- Creation of new sites and projects (applying sequential values to any newly created projects and sites)
- Creation of the Monitoring Program and Rounds
- Capture of field data
- Creation of a lab submission
- Sending/receiving the lab report

It is essential however that the SDG, Project ID and Project Number remain consistent.

To be able to send and receive a lab report each iteration however, it is essential that the LABORATORY REPORT IS NOT APPROVED.

Once approved, a laboratory report cannot be re-imported.